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ABSTRACT

The study reported in this paper sought to clarify the nature and form of faculty scholarship by identifying its dimensions and components from the pont of view of faculty at a large public doctoral granting institution. A survey instrument was developed listing 249 attributes of faculty scholarship, and 340 faculty members (66% of the total surveyed) weighed each attribute in relation to its importance within their conception of faculty scholarship. Four significant and orthogonal dimensions of faculty scholarship were identified, accounting for 41.6% of the total variation. The four factors were identified as pedagogy; publication and professional recognition; intellectual characteristics of scholars; and creative and artistic attributes. Factors described not just what faculty scholars do, but the way in which they go about the activities they pursue, their general orientations, and values associated with activities, processes, and products. Several of the variables that loaded highly on the factors encompassed the outcomes and consequences of faculty members' activities and orientations, such as long-lasting positive impact of teachers on students and concern for the development of others. Includes 31 references. (JDD)

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The Identification of the Significant Dimensions of Faculty Scholarship

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Introduction

There has been sustained interest in the higher education literature concerning faculty, their activities, values, and scholarship. Light (1974) has cited the lack of definitional clarity of the constructs under study as a limiting factor that has impaired progress in the field by limiting comparability of findings over time . Faculty scholarship is one area of inquiry that has met with continued, though largely uncoordinated, research interest in higher education. Faculty scholarship has been discussed a great deal, yet has remained largely unspecified. Consensus regarding the construct of faculty scholarship, definitional clarity, and methodologies for its study, have yet to be established. Previous studies have relied largely on the enumeration of published articles, grant dollar awards, and citation counts as operational measures of faculty scholarship. The term "faculty scholarship" has, at times, been employed as a synonym for "research publication," "publication productivity," and "research activity." There have been criticisms of narrow operationalizations of such a complex construct, and there have been recent attempts to expand and broaden the definition of faculty scholarship to include components of faculty activities, processes, and product beyone the traditional assessments of research productivity. The specification of faculty scholarship has not as yet been addressed directly or comprehensively. The study reported here attempted to build upon previous research to further the specification of a construct of faculty scholarship.

Purpose

The purpose of this study was to investigate and clarify the nature and form of faculty scholarship. Research in higher education has focused much attention on the study of the professoriate. Though scholarship is considered central to the faculty role, little empirical attention has been given to the definition of a construct of faculty scholarship. This study identified significant dimensions and components of faculty scholarship from the point of view of faculty at a large public doctoral granting institution.

Background

A considerable amount of research on what is here termed faculty scholarship has been conducted by specialists in psychology, sociology, and higher education. This research has primarily been focused in three overlapping areas of research: 1) the identification of factors related to publication productivity; 2) the relationship between teaching effectiveness and publication productivity; and 3) recent and emerging trends in the reconceptualization of faculty scholarship. Each will be briefly described.

The historical roots from which the study of faculty scholarship eventually emerged is represented by the research that sought to predict, understand, and foster scientific progress. There have been more than 90 studies conducted since 1940 in which research performance has been assessed (Fox, 1983). Despite more than 50 years of sustained interest in the prediction of research productivity, the tremendous variation in observed productivity in research performance and productivity of faculty members remains largely unspecified (Cole and Zuckerman, 1984). In the immediate post-sputnik era, a great deal of research attention was focused on the identification of factors associated with progress in scientific research. A tremendous amount of federal expenditures in research and development, and faculty members employed at major universities were the recipients of a great deal of the federal largesse. Research grant dollars were invested, largely in the sciences, to investigate the predictive power of characteristics of productive scientists and their work environments on research productivity. Many of the scientists that were studied in these early investigations worked within the nation's major

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institutions of higher education. These research efforts relied heavily on easily quantified indicators of research productivity, such as the number of published articles in professional, refereed journals, citation counts, or a total of grant dollars awarded, as criterion variables. The objectives of these studies were limited; consequently, the definitions and measurement procedures employed were narrow. However, a precedent was established in the literature for employing limited assessment methods as indicators of faculty research productivity. This stream of research has had a long lasting influence on the definitions, orientations, and methodologies used in studies investigating faculty research productivity. While the early studies focused on research productivity in the sciences, eventually these research efforts spread to the study of other academic areas.

A substantial body of research has demonstrated that the faculty members and norms of the disciplines and fields that coexist on college campuses vary systematically in many ways. Biglan (1973a, 1973b) empirically demonstrated differences in faculty members' social connectedness, time devoted to various activities, commitment to research, teaching, and service, and scholarly output. Biglan's work identified three dimensions with which the academic subject matter areas were categorized: 1) the existence of paradigm, which he termed the Hard-Soft discipline continuum, 2) the concern for application of knowledge, which he termed the Applied-Pure continuum, and 3) the concern for life systems, the Life-Nonlife continuum. Biglan suggested that the three dimensions might provide a systematic framework for the exploration of what might be "cognitive styles" of academic areas. Biglan's work was validated and extended by many other researchers from a variety of institutions. The research contributing to what is now termed the "Biglan Model" has established that systematic disciplinary differences exist in academic subject areas. Smart and Elton (1982) concluded that the classification areas identified with the Biglan model represent distinctive academic environments with unique performance norms and expectations. Thus, as with most important constructs, faculty scholarship may be sufficiently complex as to defy a single definition; the challenge may be to provide variations on the definition for faculty members within different disciplines and fields.

The primary roles of a faculty member have been described as that of teacher and researcher (Parsons and Platt, 1973); however, the assessment of scholarship has been severely constrained in the literature to incorporate only one of these roles. Teaching is no longer mentioned as a component of scholarship; scholarship has become research (Rice, 1986). The service component has become practically nonexistent in the assessment of scholarship. Despite knowledge of systematic differences in professional communication modes and opportunities, the dominant reward system in higher education favors the publication of journal articles.
Tuckman's work (1979) has established that faculty salary levels can be best predicted with knowledge of the number of journal articles a faculty member has published. The increased use of publication indices in the evaluation of faculty performance has been documented in research institutions, doctoral granting institutions, and liberal arts institutions. Further, the practice of using frequency of published communication as a criterion has been extended beyond the assessment of research productivity. Seldin (1980, 1984) has indicated that publication counts have been increasingly used as an additional indicator of teaching effectiveness.

The practice of using publication counts as an additional indicator of teaching effectiveness has emerged despite a large body of research that has largely failed to demonstrate a relationship between teaching effectiveness and research publication. The vast majority of studies assessing the relationship have resulted in correlations that were either close to zero or mildly positive. Feldman (1987) in an extensive review and meta-analysis of the literature reported that research productivity has exhibited a positive but very weak correlation with teaching effectiveness. The literature in this area has uncovered some consistent patterns of small positive relationships between specific dimensions of teaching effectiveness and research productivity, but they are not of the degree that the prevalent value and reward system in higher education embraces. Feldman's careful analysis suggested that the two dimensions, research productivity and teaching effectiveness, were not only unrelated; "they are essentially independent of each other" (p. 279), even after controlling for the effects of mediating variables. Thus, a myth, tenaciously held in many quarters of higher education, must be reexamined. If

teaching and research productivity are independent dimensions of faculty scholarship, then indices of research productivity cannot reasonably be used as indicators of the teaching dimension of faculty scholarship, as Seldin's survey of academic deans indicates is a growing trend (1984).

The dominant view and assessment of faculty scholarship has incorporated enumeration of publications as the most important factor in evaluation. The ascendency of research over teaching in faculty evaluation processes has been observed and decried by many. Ladd (1979) termed the mismatch in evaluation the "tyranny of the research model." Dissatisfaction with assessment of faculty performance that relied on narrow measures of research productivity led to many studies that demonstrated the inappropriateness of such indicators to the general faculty. Wilson (1967) observed that even within the sciences, 90 percent of all published works are written by about 10 percent of the college and university faculty. Ladd (1979) indicated that nearly 60 percent of all full-time faculty have never authored or co-authored, edited or co-edited any book or monograph. In research universities, one fourth of the faculty have never published a single journal article, and one half have not published a book or monograph (Bayer, 1973; Bayer and Dutton, 1977). More recent conceptualizations of scholarship have attempted to expand the definition and assessment strategies employed.

Many writers have encouraged a reevaluation of the concept of faculty scholarship. New conceptualizations have encouraged the inclusion of a great deal more of the spectrum of faculty activities than the publication of disciplinary articles. Astin (1985) has recommended, along with the Study Group on the Conditions of Excellence in Higher Education (1984), that the definition of scholarship be significantly broadened to include many other indicators of scholarly activities than the publication of articles. Specifically, the Study Group recommended that retention, promotion, tenure, and compensation decisions be based upon a broad definition of scholarship that demands demonstration of scholarship. The Study Group recognized that much of the "research" activity engaged in by faculty could be termed "scholarship," though much of it would never be published. The Study Group cautioned that the prevailing reward systems define "acceptable scholarship and publication in ways that preclude some forms of productive academic inquiry, and actually discourage faculty from exploring the unknown." (p. 50). The panel concluded, "A broader definition of scholarship, we believe, will encourage faculty members and institutions to be more realistic in their expectations." (p. 50). Reagan (1985) dismissed current conceptions of academic productivity; Soderberg (1985) encouraged more credible models of faculty evaluation; Elman and Smock (1985) presented a structure for the reward of faculty professional services that emanated from their academic discipline; Ruscio (1987) described the distinctive scholarship of the selective liberal arts college; and Rice (1986) called for a new, broadened conception of the academic professional. These are but a few of many possible examples of resistance to the imposition of the research model upon the general faculty.

In response to this general dissatisfaction, a few researchers have attempted to empirically demonstrate that faculty scholarship may incorporate more than publication of knowledge, citation counts, and grant dollar acquisition. Braxton (1980), though not attempting to define scholarly activity, wanted to discern whether activities other than publication that also make use of a faculty member's doctoral research training exist empirically. This work led to Braxton and Toomb's (1982) differentiation of scholarly effort from research activity.

Pellino, Blackburn, and Boberg (1984) observed that the percentage of faculty indicating they were currently engaged in research that they expected to lead to publication varied dramatically across institutional types. For community colleges the percent indicating engagement in such research as about 25%; the regional university faculty percentage was about 60%, and 89% of research university faculty indicated they were currently involved in research leading to publication. Of particular interest, the same authors reported very little variation in the percentage of faculty across institutional types indicating current engagement in scholarly activity of some type (excluding teaching and classroom preparation). The corresponding percentages ranged only from 94% to 98%. Pellino, et.

al, observed that faculty who are not productive in publication perceive their work as scholarly, and that the contribution of this scholarship to their work needs to be clarified.

Pellino, Blackburn, and Boberg (1984) provided some clarity to the issue of faculty scholarship by factor analyzing weights faculty had assigned to 32 activity statements. Over 1,000 faculty respondents, from a variety of institutional types, assigned weights to the activities on the basis of centrality of the activities to the faculty member's conception of scholarship. Six correlated factors were reported: 1) Scholarship as a Professional Activity, 2) Research and Publication, 3) Artistic Endeavor, 4) Engagement with the Novel, 5) Community Service, and 6) Pedagogy. The resulting factor structure suggested a variety of dimensions of faculty scholarship, and Pellino, et. al. suggested that these dimensions of scholarship and the manner in which faculty give meaning to them might represent a new field of investigation.

Sundre (1989b) attempted to provide additional clarity through the specification of the content domain of faculty scholarship. She asked a stratified random sample of over 50 faculty members from a doctoral granting institution to nominate and describe individuals they considered scholarly. Participants were asked to describe the characteristics and attributes of the nominated individuals that prompted them to consider them scholarly. Each of the listings provided by the 50 faculty members (86.2% participation rate) was reviewed and validated by the respondent. Each participant was asked to indicate whether the information they had provided conveyed the essence of their conception of faculty scholarship; 90% of the participants so endorsed the legitimacy of the data collected. From the descriptions of the scholars, a comprehensive listing of the components of faculty scholarship was produced. The final listing included 462 elements of faculty scholarship; the number and nature of the proposed attributes supported the contention of previous researchers that the construct of faculty scholarship is broader and richer than previous conceptions. The tripartate of the faculty role (i.e. research, teaching, and service) was well represented throughout the inventory. Also listed were attributes specifically focused on the teaching process; many attributes described with clarity the value associated with being a mentor and assisting and caring about the development of others. The faculty service role was well represented, and was described as a component of scholarship when it encompassed activities within the academic unit, across the institution, and beyond the campus to the profession or discipline and society at large. The breadth and scope of the inventory was illustrated by the number of entries that addressed faculty orientation, characteristics, skills, values, and attitudes.

The current study used a listing of 249 attributes that emerged from an attribute reduction study conducted on the original 462 Sundre faculty scholarship components (see Sundre, 1989a). The reduced listing was prepared following rigorous decision rules and was validated by a panel of five independent judges. With the content domain of faculty scholarship specified by faculty members at the same institution, the factor structure of faculty scholarship was ready for investigation.

Method

A survey instrument was distributed to the population of full-time faculty assigned to academic units within the institution. Of particular interest in this study were faculty responses to a section of the survey instrument in which attributes of faculty scholarship were presented. Every attribute of faculty scholarship in the survey instrument had been previously proposed by a faculty member from the local institution (Sundre, 1989a, 1989b). Faculty members were requested within the survey to weight each attribute of faculty scholarship in relation to its importance within their conception of faculty scholarship, as that conception applies to faculty members within their field or discipline. Participants assigned weights using a six-point scale ranging from zero to five. They were told to assign a weight of zero if the attribute had "no importance whatsoever" to their conception of faculty scholarship and to assign a five if they considered the attribute to be of "very high importance" within their conception of faculty scholarship.

The weights assigned by faculty to the attributes and qualities of faculty scholarship were correlated. The resulting correlation matrix was analyzed to determine the appropriateness of factor analysis, and when the factor model was deemed appropriate, the correlation matrix of scholarship attributes was submitted to factor analysis to determine the underlying dimensions or factors. Estimates of the initial factors were determined using the principal components method of factor extraction. The identified factors were subjected to a scree test, and the percent of variance accounted for by the significant factors was examined to determine how many factors were necessary to adequately and parsimoniously represent the data. To render a simpler factor structure and factors more readily interpretable, the factors were then rotated. Twenty attributes of faculty scholarship with the highest factor loadings greater in absolute value than .50 and loading on only one factor were identified as components of that factor. Tentative names were associated with each of the identified factors in accordance with the components and their factor loadings.

Results and Conclusions

A total of 340 questionnaires, or 66%, were returned to the researcher. No significant response bias was present on the basis of sex, age, rank, career age, highest degree earned, or HEGIS code of academic department; however, it was found that individuals without tenure-track academic appointments were less likely to have completed and returned the survey. The results of the survey may be less generalizable to faculty with non-tenure track appointments than the general faculty population.

Four significant and orthogonal dimensions of faculty scholarship were identified in this study. The four factors accounted for 41.7% of the total variation of the 249 variables submitted to principal components analysis. The simple structure of the factor solution was evident from the final rotation, since very few variables loaded on more than one factor. No variable listed within a table had a factor loading with an absolute value over .30 on any other factor. The tentative names and loadings on the four factors retained for study are presented in the tables that follow. Interpretations of each of the factors follow each table.

Table 1

Factor One: Pedagogy

Variable Description	Factor Loading
Exhibits Excellence in Teaching	.80
Is Committed to Teaching	.79
Students Find Classes Interesting	.78
Respects Students	.77
Students Find Classes Challenging	.77
Demonstrates Concern for Development of Others	.77
Is Active in Teaching	.77
Searches for Innovative Approaches to Teaching	.77
Prepares Valuable Class Materials	.76
Teaches Students Importance of Communication	.76
Is Generous with Time for Students	.74
Is Respected by Students	.74
Demonstrates Relevant, Unforced Presentation of Experiences into Teaching	.74
Inspires Others to More Fully Cooperate	.74
Inspires Students Academically	.73
Integrates Teaching With Scholarship	.73
Is Concerned about Educational Issues	.73
Works Carefully on Projects with Students	.72
Has Long-Lasting Positive Impact on Students	.72
Is Able to Activate Students' Memory and Imagination	.72

The first factor explained 21.3% of the total variation in the 249 variables submitted to the principal components analysis. The first factor has been tentatively named Pedagogy. The variables contributing to this factor incorporate not only the activities of teaching, but include orientations and values often associated with effective teaching, as well as manifiest and latent outcomes of excellence in pedagogy.

Table 2

Factor Two: Publication and Professional Recognition

Variable Description	Factor Loading
Publishes Regularly	.76
Publishes in Refereed Journals	.74
Serves on Editorial Board for Journal	.73
Publishes in Quality Journals	.72
Edits Publication(s)	.72
Has Chapter(s) Published	.72
Serves as Editor of Professional or Disciplinary Journal	.72
Has Monograph(s) Published	.70
Is Considered a Leader in the Field or Discipline	.69
Work is Cited by Others	.69
Has Article(s) Published	.69
Contributes to or Influences Field Through Publications	.68
Has Review(s) Published	.68
Reputable Publication Sources Solicit Work	.66
Has Book(s) Published	.66
Review(s) of Work are Published	.66
Has Conference Proceedings Published	.65
Is Acknowledged as Pioneer in Field of Inquiry	.65
Co-edits Publication(s)	.65
Receives Grant Award	.64

The second factor, tentatively named Publication and Professional Recognition, accounted for 10.6% of the total variation of the total set of variables. This factor included items that described a diverse array of publication modes, service toward the production of publications for others, and recognition for research and publication in the field or discipline.

Table 3

Factor Three: Intellectual Characteristics of Scholars

Variable Description	Factor Loading
Exhibits Intellectual Imagination	.67
Has Spirit of Inquiry or Curiousity	.65
Has Clarity of Purpose	.65
Has Courage to be Honestly Critical	.63
Is Intellectually Insightful	.63
Able to Synthesize and Relate Phenomena	.61
Exhibits Intellectual Rigor	.60
Demonstrates Complex Thinking Skills	.60
Makes Convincing Arguments	.59
Is Committed to Work	.58
Is Considered a Reliable Source of Information	.58
Understands Limits of Own Knowledge	.58
Accepts and Seeks Professional Scrutiny	.57
Allows Time for Insights to Develop	.57
Generates Valuable Ideas	.57
Searches for Integration of that Which is Known	.55
Provides Creative and Insightful Interpretations	.55
Views Scholarship as Both Process and Product	.54
Searches for New Information or Knowledge	.54
Upholds Rigorous Standards	.53

The third factor, Intellectual Characteristics of Scholars, accounted for 5.9% of the variation in the set of attributes of faculty scholarship. The factor includes variables that describe a wide range of intellectual and work-related skills, orientations, values, and products of intellectual activities.

Table 4

Factor Four: Creative and Artistic Attributes of Scholars

Variable Description	Factor Loading
Is Active in Production of Art	.81
Makes Work(s) Available for Contemporary Performers	.80
Exhibits Intentionality of Artistic Design	.79
Is an Active Performer	.78
Creates Scholarly Artistic Work	.78
Has Work Exhibited	.77
Is an Experienced Professional in the Arts	.76
Has Playscript(s) Published	.75
Has Performances Recorded	.75
Composes Across Media	.71
Choreographs	.69
Is an Outstanding Performer	.69
Creative Work Challenges Viewer	.65
Is a Theatrical Perfectionist	.61
Conducts Master Classes	.60
Demonstrates Mastery of Medium	.58
Work is Recognized and Performed by Others	.57
Demonstrates Craftsmanship	.56
Is a Recognized Literary and Social Critic	.53
Contributes to or Influences Field Through Translation	.51

The fourth factor, tentatively named Creative and Artistic Attributes of Scholars, accounted for 3.9% of the total variation in the components of faculty scholarship. This factor describes a wide variety of artistic and creative characteristics, processes, products, and impacts of faculty scholars.

Factor scores for each of the four significant factors were calculated for each respondent in the study using two different methods. The first method employed regression weights from all variables in the study. The second method summed individual participants' responses to the twenty variables with the highest loadings on the factor for which a factor score was being determined. Thus, four sets of factor scores were derived using the two calculation methods. The latter method was preferred for three reasons: (1) the number of valid observations used to calculate each factor score was increased because calculation involved only twenty variables rather than the full set of 249, (2) factor scores derived from twenty variables might encourage and facilitate use of the identified items and factors by other researchers, and (3) factor scores based on unit weights have been shown to be more reliable than those based on sample estimates. The factor scores generated by the two different methods were correlated to assess their degree of relationship. The Pearson product-moment correlation coefficients for pairs of factor scores representing the four factors were .95, .93, .91, and .95 respectively. The internal consistency of the twenty items comprising each factor was estimated through the calculation of Cronbach's alpha statistics; the resulting estimates were: .97, .96, .92, and .95 respectively. In summary, the factor scores derived through unit weighting of the twenty items with the highest factor loadings exhibited strong positive correlations with factor scores calculated using the standard weighted regression method. They also demonstrated exceptional internal consistency.

Discussion

A good principal components or factor analysis solution is said to be one that explains as much of the variance in the variables as possible with the fewest number of factors, while producing an easily interpretable factor structure that relates clearly to acceptable psychological theories. The principal components factor structure obtained in this study satisfied these criteria.

The factors that emerged in this study described not just what faculty scholars do, but the way in which they go about the activities they pursue, their general orientations, and many values associated with activities, processes, and products. Several of the variables that loaded highly on the factors encompassed the outcomes and consequences of faculty members' activities and orientations, such as long-lasting positive impact of teachers on students, and concern for the development of others. Such contributions are not easily or often explored in evaluations of faculty; although, it cannot be denied that orientations and effects of this nature are major intended outcomes of effective faculty intervention.

It is clear that the prevalent system of reward across higher education compensates publication and professional activity over teaching and service activities. It is heartening that in a time when faculty are rewarded largely for tangible manifestations of their scholarship, the faculty in this study embraced strongly the intangible and latent products of their efforts. One can legitimately question whether the prevailing system rewards what faculty consider to be their scholarly role.

The first factor that emerged in this study related to pedagogic activities and orientations of faculty. It has been stated by many observers of higher education that teaching is considered the primary responsibility of faculty. National studies of faculty have indicated that teaching is the major role with which faculty associate themselves (Ladd, 1979). In a previous study (Pellino, Blackburn, Boberg, 1984) that used an inventory of activities and asked faculty members from a variety of institutional types to indicate the importance of the activities to their conception of scholarship, faculty members, (with the exception of faculty employed at research oriented institutions), ranked teaching as the most important component of their role. However, the pedagogy factor was the sixth and last to emerge in the factor analysis conducted in that study, and it accounted for less than three percent of the variance of items in the analysis. This observation may lend further credence to the contention that the content domain of the pedagogy factor, (and perhaps other factors of scholarship), have not been adequately specified in previous studies. The pedagogy factor identified in the current study corresponds with the comments of McGee (1971) regarding prevailing attitudes about teaching at the colleges he investigated. McGee indicated that "concern with and for students and the conditions of their instruction is universal. (p. 193)" This commentary is congruent with the nature and scope of the items that defined the pedagogy factor in this study.

The second factor, Publication and Professional Recognition, conveyed the importance of publication and service to the profession or discipline through many modes of publication, editorial contribution, and leadership in a field or discipline. While the first factor seemed to relate to institutional considerations, the second factor related to concerns largely external to the campus; i.e., the demands of a faculty member's professional and disciplinary community. The local-cosmopolitan "academic type" distinction is a familiar one in the higher education literature (Gouldner, 1957, 1958; Babchuk and Bates, 1962; McGee, 1971; Light, 1974), and the current study empirically demonstrated the presence of two factors that described this recurrent academic theme. The results of this factor solution also demonstrated that teaching and research are independent dimensions of faculty scholarship. This finding supports the conclusion of Feldman's meta-analysis (1987) of the research literature and further calls into question the growing trend Seldin (1984) has eluded to of using research publication as an indice of teaching effectiveness.

The third factor, Intellectual Characteristics, was not expected, although, from the interviews with the faculty that proposed the attributes of faculty scholarship and a review of the descriptions of the scholars they proposed, it is apparent such a factor might have emerged. Of particular interest is

the high regard in which this factor was held by almost all faculty. Smaller variation in factor scores was apparent for this factor than for the other three factors, an indication that such skills, values, and contributions are universally valued.

The fourth factor, Creative and Artistic Attributes of Scholarship, exhibited the largest standard deviation in factor scores of all factors. This outcome is plausible since many faculty are not involved in creative and artistic pursuits, particularly some of the specific activities and processes that define this factor (i.e.; choreographs, composes across media, is active in production of art, etc.). However, on a campus steeped in the liberal arts tradition with degree programs in art, music, theatre, dance, and other applied and professional creative areas, a significant portion of faculty do engage in such activities and embrace the processes and values identified by this factor. Hence, the emergence of this factor as a significant dimension of faculty scholarship at the university investigated is not only plausible but validating. It will also be noted that the study of Pellino, Blackburn, and Boberg (1984) identified a similar factor, which they termed Artistic Endeavor.

This study was designed to provide definitional clarity to a construct of faculty scholarship as faculty perceive their scholarly role. Additional studies will be needed to examine the generalizability and consistency of the factors obtained in this study and to clarify the valence of the factors within the overall construct of faculty scholarship. However, the results of this specific study provide support for the pioneering work of Braxton (1980), Braxton and Toombs (1982), and Pellino, Blackburn, and Boberg (1984) that suggested that the construct of faculty scholarship was broader than the conceptions provided by others. One conclusion from this study must be that these pioneers were correct; the construct of faculty scholarship is indeed complex. Consideration should be given to a broadened conception of faculty scholarship that recognizes, legitimizes, and rewards the scholarly activities of many more faculty members.

In regard to the implications of this study for future action or research, it would seem prudent that the terms employed in the higher education literature might be refined to the extent that the word "scholarship" no longer is used as a synonym for publication. The extensiveness of the domain of scholarship and the dimensions identified in the current study call into question the presumption that enumerations of publications or counts of citations can serve as adequate indicators of scholarship. The results of the present study challenge the content and construct validities of previous methodologies for assessment of faculty scholarship. The construct validity of previous definitions is directly threatened due to what Messick (1989) would term "construct underrepresentation."

REFERENCES

Astin, A. W. (1985). Achieving Educational Excellence. San Francisco: Jossey-Bass Publishers.

Babchuk, N., & Bates, A. P. (1962). Professor or producer: The two faces of academic man. Social Forces, 40, 341-348.

Bayer, A. E. (1973). Teaching faculty in academe: 1972-73. ACE Research Reports. No. 2. Washington, D.C.: American Council on Education.

Bayer, A. E., & Dutton, J. E. (1977). Career age and research-professional activities of academic scientists. Journal of Higher Education, 48, 259-282.

Biglan, A. (1973a). The characteristics of subject matter in different academic areas. Journal of Applied Psychology, 57, 195-203.

Biglan, A. (1973b). Relationships between subject matter characteristics and the structure and output of university departments. Journal of Applied Psychology, 57, 204-213.

Braxton, J. M. (1980). The application of doctoral training in scholarly activities. Unpublished doctoral dissertation, Pennsylvania State University.

Braxton, J. M., & Tooombs, W. (1982). Faculty uses of doctoral training: Consideration of a technique for the differentiation of scholarly effort from research activity. Research in Higher Education, 16, 265-282.

Carnegie Commission on Higher Education. (1987). A classification of instititutions of higher education. Berkeley, Calif.: Carnegie Commission.

Cole, J. R., & Auckerman, H. (1984). The productivity puzzle: Persistence and change in patterns of men and women scientists. In M. W. Steinkamp & M. L. Maehr, (Eds.) Advances in Motivation and Achievement, Vol. 2. Greenwich, Conn.: JAI Press.

Elman, S., & Smock, S. (1985). Professional service and faculty rewards: Toward an integrated structure. Washington, D.C.: National Association of State Universities and Land-Grant Colleges.

Feldman, K. A. (1987). Research productivity and scholarly accomplishment of college teachers as related to their instructional effectiveness: A review and exploration. Research in Higher Education, 26, 227-298.

Fox, M. F. (1985). Publication, performance, and reward in science and scholarship. In J. C. Smart (Ed.), Higher Education: Handbook of theory and research, (Vol. I), New York: Agathon Press.

Gouldner, A. W. (1957). Cosmopolitans and locals: Toward an analysis of latent social roles, I. Administrative Science Quarterly, 2, 281-306.

Gouldner, A. W. (1958). Cosmopolitans and locals: Toward an analysis of latent social roles, II. Administrative Science Quarterly, 2, 444-480.

Ladd, E. C., Jr. (1979). The work experience of American College professors: Some data and an argument. In Current Issues in Higher Education, No. 2. Washington, D. C.: American Association for Higher Education. Ed 193 998.

Levinson, D. J. (1959). Role, personality, and social structure in the organizational setting. Journal of Abnormal and Social Psychology, 58, 170-180.

Light, D. J. (1974), Introduction: the structure of the academic professions. Sociology of Education, 47, 2-28.

McGee, R. (1971). Academic Janus. San Francisco: Jossey-Bass.

Messick, S. (1989). Meaning and values in test validation: The science and ethics of assessment. Educational Researcher, 18, 5-11.

Parsons, T., & Platt, G. M. (1973). The American university. Cambridge, Mass.: Harvard University Press.

Pellino, G. R., Blackburn, R. T., & Boberg, A. L. (1984). The dimensions of academic scholarship: Faculty and administrator views. Research in Higher Education, 20, 103-115.

Reagan, G. M. (1985). The concept of academic productivity. Educational Forum, 50, 75-85.

Rice, R. E. (1986). The academic profession in transition: Toward a new social fiction. Teaching Sociology, 14, 12-23.

Ruscio, K. P. (1987). The distinctive scholarship of the selective liberal arts college. Journal of Higher Education, 58, 205-222.

Study Group on the Conditions of Excellence in American Higher Education. (1984). Involvement in Learning: Realizing the potential of American higher education. Washington, D.C.: National Institute of Education.

Soderberg, L. O. (1985). Dominance of research and publication: An unrelenting tyranny. College Teaching, 33, 168-172.

Sundre, D. L. (1989a). The specification of the content domain of faculty scholarship. Paper presented at the American Educational Research Association annual meeting. San Francisco, CA: March, 1989.

Sundre, D. L. (1989b). Toward the development of a construct of faculty scholarship. Unpublished doctoral dissertation. Greensboro, NC: University of North Carolina at Greensboro.

Tuckman, H. P. (1979). The academic reward structure in American higher education. (pp, 165-190). In D. R. Lewis & W. E. Becker, Jr. (Eds.), Academic rewards in higher education. Cambridge, Mass.: Ballinger Publishing Company.

Wilson, L. (1967). The professor andhis roles. In D. Lee (Ed.). Improving college teaching. Washington, D.C.: American Council on Education.